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| Prepared by | | Document Name | | |
| Bikram Choudhury | | How_To_Run_Code_Generator_App_Local.docx | | |
| Checked by | Released by | Release Date | Rev. | Project / Reference |
| Dheeraj.K | Bikram Choudhury | 25-09-2023 | 01 | Code Generator |

How to run Code Generator Application on Local Machine

1. Abstract

Code Generator application needs two input files i.e. .arxml and .dbc file. This application is smart enough to detect the ARXML file type as ASIL or QM from the file name, then provide the necessary output source files as a response. This application eliminates the use of MATLAB to generate the application source files.

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2. Revision History

| Rev. | Date | Author | Change Description |
|------|------------|--------|--------------------|
| 00 | 27.07.2023 | Bikram | Initial creation |
| 01 | | | |
| 02 | | | |

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4. Steps to Set Up the Local Environment

4.1 Step-1 (Python Installation)

Create a folder **code-generator** windows machine and open command prompt inside the folder and perform below operations.

Now hit below 2 commands to check python and pip is installed in machine or not.

python --version

This will display the installed Python version.

pip --version

This will display the installed pip version.

If python and pip is not installed then follow below instructions else continue from **Step-2**.

Go to the official Python website (<https://www.python.org/downloads/>) and download the latest stable version of Python for Windows. Make sure to download the correct version based on your system architecture (32-bit or 64-bit).

Run the Installer:

Once the download is complete, in the Python installer executable (.exe) that you downloaded. During the installation, make sure to check the box that says "Add Python x.x to PATH." This will add Python to your system's environment variables, allowing you to use Python and pip from the Command Prompt.

Verify the Installation:

After the installation is complete, open the Command Prompt (search for "cmd" in the Start menu) and type the following commands to check if Python and pip are installed correctly:

Command to check python and pip installation and version:

python --version

This will display the installed Python version.

pip --version

This will display the installed pip version.

4.2 Step-2 (Installation of Necessary Packages)

Installation of Virtual Environment:

pip install virtualenv

Create A Virtual Environment Named env:

virtualenv env

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Activate The Virtual Environment:

`env\Scripts\activate`

Installation of Flask and Cantools:

`pip install flask`

`pip install flask-cors`

`pip install cantools==38.0.2`



4.3 Run the Application:

Now put the 3 python files inside the **code-generator** folder and Run the following command to serve the application.

`flask run`



5. API Details

To test this application, Download and install Postman application from below URL.

<https://www.postman.com/downloads/>



5.1 To Upload dbc file to Server



Here Frontend needs to provide a userID for each request. "delta15" is the userID in below request.

Method: **POST**

POST URL: <http://localhost:5000/api/uploaddbc/delta15>

Sample Response:

```
{
  "filename": "PAG_IPB_Int_CAN_Matrix_V1_9_1.dbc",
  "status": "success"
}
```

5.2 To Upload ARXML file to Server

Here Frontend needs to provide a userID for each request. "delta15" is the userID in below request.

Method: **POST**

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POST URL: <http://localhost:5000/api/upload/delta15>

Sample Response:

```
{
  "fileType": "asil",
  "filename": "TEST_asiL.arxml",
  "status": "success"
}
```

5.3 To Download the Generated files from Server

Method: **GET**

URL for QM: <http://localhost:5000/api/downloadfile/delta1?filetype=qm>

URL for ASIL: <http://localhost:5000/api/downloadfile/delta1?filetype=asil>

Sample Response:

A zip file will be downloaded.

5.4 To Delete the file from Server

Method: **DELETE**

URL: <http://localhost:5000/api/delete/delta15>

Sample Response:

```
{
  "message": "Folder for delta15 deleted.",
  "status": "success"
}
```